

## REMARKS

In the specification, amendments made herein are to correct inadvertent typographical errors or to incorporate reference to the new Fig. 5. New paragraphs have been added herein to incorporate reference to Fig. 5. The foregoing amendments involve no new matter.

Claims 70-72 are pending in the subject Office Action. Applicant has amended claims 70-71 for clarity and without narrowing the scope of the claims. In the Office Action dated August 29, 2007, the Examiner requests a new title and correction of any errors that Applicant becomes aware of in the specification; the Examiner objects to claim 70 due to a typographical error and requested that Applicant address issues with antecedent basis in claims 70-71; the Examiner objects to the drawings under 37 C.F.R. 1.83(a) as failing to show every feature of the invention specified in the claims; the Examiner rejects claims 70-72 under 35 U.S.C. § 112, second paragraph, as failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention; the Examiner rejects claims 70-72 under 35 U.S.C. § 101 as being directed to non-statutory subject matter; and the Examiner rejects claim 70 under 35 U.S.C. § 102(b) as being anticipated by Ellis et al. (U.S. 5,621,454).

Applicant respectfully requests reconsideration for the reasons set forth below.

### **A. Title and Specification - Informalities**

The Examiner states that “[t]he title of the invention is not descriptive,” and requires a new title “that is clearly indicative of the invention to which the claims are directed.” Office Action at 2. In response, Applicant has amended the title to read: “Method For Determining the Likelihood of a Match Between Source Data and Reference Data.” Applicant believes such

amendment to be responsive to the Examiner's objection, and respectfully requests withdrawal of such objection.

The Examiner requests the Applicant's cooperation in "correcting any errors of which Applicant may become aware in the specification." Office Action at 2. Applicant has amended the specification to correct inadvertent typographical errors. The foregoing amendments involve no new matter.

**B. Claim Objection**

The Examiner objects to claim 70 because of an informality. Specifically, the Examiner requests the Applicant to "replace no with on." Office Action at 2. The Applicant is unable to locate such typographical error in claim 70, and respectfully requests that the Examiner particularly point out the location of such typographical error.

**C. Drawing Objection – 37 C.F.R. 1.83(a)**

The Examiner objected to the drawings under 37 C.F.R. 1.83(a) as failing to show "every feature of the invention specified in the claims." Office Action at 4. Applicant has amended the drawings to add a new drawing sheet containing the new Fig. 5 showing every feature in claims 70-72 and directed to novel subject matter in the specification, and has amended the specification in accordance therewith. The foregoing amendments involve no new matter. Applicant believes such amendment to be responsive to the Examiner's objection, and respectfully requests withdrawal of such objection.

**E. Claim Rejection – 35 U.S.C. § 112**

The Examiner rejects claims 70-72 as "indefinite because the terms Y, N, and n are not defined. Are they integers, >1, >=1, etc. The limitations can be interpreted as Y=0, N=0, n=0,

$Y=1$ ,  $N=1$ ,  $n=1$ ; where would make the claim further indefinite because the limitations would not need to occur.” Office Action at 3. In response, the Applicant has amended claim 70 to add the limitation “where  $Y$  and  $N$  are integers and  $N \geq Y \geq 1$ ,” and claim 71 to add the limitation “where  $n$  is an integer and  $n < Y$ .” Applicant believes such amendment to be responsive to the Examiner’s rejection, and respectfully requests withdrawal of such rejection.

The Examiner rejects claim 70 under 35 U.S.C. § 112(2) as having “insufficient antecedent basis” for the limitation “the general probabilities.” Office Action at 3. In response, the Applicant has amended claim 70 to recite “general probabilities” rather than “the general probabilities.” Applicant believes such amendment to be responsive to the Examiner’s rejection, and respectfully requests withdrawal of such rejection.

The Examiner rejects claim 70 under 35 U.S.C. § 112(2) as having “insufficient antecedent basis” for the limitation “the probabilities.” Office Action at 3. In response, the Applicant has amended claim 70 to recite “the general probabilities” rather than “the probabilities.” Applicant believes such amendment to be responsive to the Examiner’s rejection, and respectfully requests withdrawal of such rejection.

The Examiner rejects claim 71 under 35 U.S.C. § 112(2) as having “insufficient antecedent basis” for the limitation “the match values.” Office Action at 3. In response, the Applicant has amended claim 71 to recite “the series of match values” rather than “the match values.” Applicant believes such amendment to be responsive to the Examiner’s rejection, and respectfully requests withdrawal of such rejection.

**E. Claim Rejection – 35 U.S.C. § 101**

The Examiner rejects claims 70-72 under 35 U.S.C. § 101 “because the claimed invention is directed to nonstatutory subject matter. Claims 70-72 consists solely of mathematical operations without some claimed practical application. Also, if determining likelihood is a practical application of the claimed invention, please define how determining likelihood is a practical application and please show where exactly the specification supports determining likelihood is a practical application. The Examiner does see the support for the practical application for the other claim sets were data reduction however does not see that as the practical application for this invention.” Office Action at 3-4.

Determining likelihood of a match finds practical application in, for example, determining a match between source data and data in a reference library. In an exemplary embodiment of broadcast signal recognition, a method for determining likelihood of a match may be used to compare a digital representation of a captured source signal to a predefined digital representation corresponding to known content to, for example, verify that the known content has been broadcast, or to determine how many times (if at all) the known content has been broadcast. In that example, the claimed “first set of data” may be the source data, and the claimed “second set of data” may be the reference data. *See* Application, paras. 29-31. *See also* para. 24. As claimed, the method for determining likelihood of a match may be readily implemented by a signal processor to automate a matching process with a high degree of accuracy and computational efficiency. Support for a practical application, including the foregoing practical application, may also be generally found in paragraphs 53-65 of the application. The Examiner’s statement of reasons for rejection suggests that pointing out practical application and support therefor in the specification will be sufficient to overcome this rejection. Accordingly, Applicant

believes the foregoing explanation to be sufficient to overcome the Examiner's rejection, and respectfully requests withdrawal of such rejection.

**F. Claim Rejection - 35 U.S.C. § 102(b)**

The Examiner rejects claim 70 under 35 U.S.C. § 102(b) as "being anticipated by Ellis et al. (U.S. 5,621,454)." The Examiner particularly points to column 47, line 5 to column 48, line 9 of Ellis.

That part of Ellis discloses "assess[ing] the probability of [sixteen-bit] frame signatures each successfully matching during a rebroadcast of the corresponding segment in accordance with the keyword matching process." Ellis at 23:29, 47:2-6. According to Ellis, "the keyword is selected as the frame signature at an offset  $n$  of the segment most likely to match upon rebroadcast of the segment within a predetermined guardband of  $\pm g$  frame signatures. If the probability of a match with a frame signature at offset  $m$  in accordance with the keyword matching procedure (that is, a match of all 16 bits or of at least 15 of the 16 bits) is termed  $pk(m, n)$ ," then "the probability  $pk(m, n)$ " is determined thus:

$$pk(m, n) = 15 * PM + \sum [PM / P(i)], i=0 \text{ to } 15$$

Ellis at 47:6-12.  $PM$  is the probability of a match on all bits:

$$PM = \text{product } [P(i)], i=0 \text{ to } 15,$$

$P(i)$  is the probability of a match of bits  $(i)$  of the potential key word and frame signature, where  $i=0$  to 15. Ellis then provides a computational method for determining "the probability that a potential keyword at offset  $n$  will match with one or more frame signatures along a given interval from an offset  $a$  to an offset  $b$ ," and for determining the "guardband  $\pm g$ ." Thus, according to

Ellis, “[b]y determining the respective such probabilities for all potential keywords among the acceptable runs of the segment signature, each potential keyword is assigned a figure of merit based on the matching probability determined in the foregoing manner.” Ellis also describes assigning “relative figures of merit \* \* \* to potential match words which may be selected from the frame signatures of the acceptable runs.” Ellis at 47:6 to 48:9.

As is clear from the foregoing, Ellis discloses matching keywords rather than matching a first set of data having Y of N bits set equal to a first binary value and a remainder of the bits set equal to a second binary value, and a second set of data also having Y of N bits set equal to a first binary value and a remainder of the bits set equal to a second binary value. Thus, Ellis does not disclose determining the general probabilities of Y of N bits in said first set of data and in said second set of data being the same. Finally, although Ellis relies on a “heuristic rating system which generates a linear function of the properties for each segment, namely, nominal length, cues and deviation from nominal length,” *see* Ellis at 38:62, Ellis does not disclose heuristically processing probabilities to produced a series of match values based on the number of respective bits in the first set of data and in the second set of data that are identical. Thus, Ellis does not disclose or suggest every element of the pending claims. Accordingly, the Applicant respectfully requests withdrawal of such rejection.

## G. Conclusion

In view of the foregoing, Applicant respectfully submits that claims 70-72 are in condition for allowance, and such is earnestly requested. If the Examiner believes that a telephone conference would advance the prosecution of this application, the Examiner is respectfully requested to contact the undersigned attorney.

It is believed that no fee is required for this submission. However, if any fee is required, the Commissioner is authorized to charge any such fee to Deposit Account No. 03-3483.

Respectfully submitted,

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